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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/053,152

01/23/2002

John Michael Miller

200-0459

8695

22844

7590

08/14/2002

FORD GLOBAL TECHNOLOGIES, INC  
SUITE 600 - PARKLANE TOWERS EAST  
ONE PARKLANE BLVD.  
DEARBORN, MI 48126

EXAMINER

BENENSON, BORIS

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/053,152

Applicant(s)

MILLER, JOHN MICHAEL

Examiner

Boris Benenson

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 22-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

This office action is responsive to the divisional case filled 1/23/2002 and to the preliminary amendment, which cancelled all claims and added claims 22-33.

***Specification***

Specification is objected because first line of the specification does not recite that it is divisional application.

**35 U.S.C. 120    Benefit of earlier filing date in the United States.**

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and **if it contains or is amended to contain a specific reference to the earlier filed application.** No application shall be entitled to the benefit of an earlier filed application under this section unless an amendment containing the specific reference to the earlier filed application is submitted at such time during the pendency of the application as required by the Director. The Director may consider the failure to submit such an amendment within that time period as a waiver of any benefit under this section. The Director may establish procedures, including the payment of a surcharge, to accept an unintentionally delayed submission of an amendment under this section.

(Amended Nov. 14, 1975, Public Law 94-131, sec. 9, 89 Stat. 691; Nov. 8, 1984, Public Law 98-622, sec. 104(b), 98 Stat. 3385; Nov. 29, 1999, Public Law 106-113, sec. 1000(a)(9), 113 Stat. 1501A-563 (S. 1948 sec. 4503(b)(1)).)

The application transmittal form which has the information filled out does not have the appropriate box checked. (box 14) Should be corrected.

Specification is objected because the use of "---" throughout the specification. All "---" should be removed.

**Abstract**

The abstract of the disclosure is objected to because it uses reference numbers but does not contain this numbers within parenthesis. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 22-33 rejected under 35 U.S.C. 103(a) as being unpatentable over Diehl et al. (US Patent No 5765513) in view of Kato et al. (US Patent No 6224034) and Ueda et al. (US patent No 5150020).

Regarding claims 22,27,28:

Diehl et al. discloses an electromechanically activated valve for use as intake or exhaust valve on internal combustive engine (col.2, line 58). The valve is driven by plural

Art Unit: 2836

electromagnets (22,30,32). The electromagnets are driven by "conventional source of electrical current"(Col.3 Lines 24-27), which reads on selectively connecting phases between first node and ground. Diehl et al. further discloses slowing the valve at the end of movement and storing the potential energy from slowing in a "spring and return it to the system" (col.3, lines 64,65)

Diehl et al. does not disclose:

1. An electrical motor driven by first and second stator phases in order to activate the valves.
2. Generating a braking current in a first electromechanical valve.
3. Connecting the second electromechanical valve to the first node and ground thereby directing the braking current to the second electromechanical valve.

Kato et al. teaches a control valve (50) for an engine that is drive by a motor (2) with plural phases (col. 6, l. 46-53), the motor controller (col.6, l. 67) that reads on a commutation circuit.

Ueda et al. Discloses a plural motor system in which some motors are accelerating and others are decelerating simultaneously (abstract), the motors that are decelerating are connected to a common node (lines 11,12,13 are all connected,

Art Unit: 2836

fig 1.), to efficiently utilize the generated braking currents. Ueda et al. further discloses inverters (I), which are read on the commutation circuits.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the electromechanical valve of Diehl et al. to use a motor to drive the valve as taught by Kato et al. because this allows more flexibility in controlling the position and speed of the valve which allows adjusting the amount of opening of the valve.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the electromechanical valve of Diehl et al. and Kato et al. to use recaptured potential energy from one valve to drive another valve as taught by Ueda et al. because this allows regenerated energy to be utilized which saves energy (col. 4 l. 25).

Regarding claim 23:

Diehl et al. discloses the valve may be an exhaust valve (col.2, l. 60).

Regarding claim 25:

Diehl et al. discloses the valve may be an intake valve (col.2, l. 60).

Regarding claims 24,26,30,32:

Art Unit: 2836

The directions (open/close) of the valve movement are defined as positive or negative are deemed a naming convention. Ueda et al. Teaches transferring regenerated currents to current consumers.

Regarding claim 33:

Diehl et al. discloses the controller may be a computer (col.3 1.27). It would have been obvious to one of ordinary skill in the art at the time the invention that computer should have a program (a code), stored in some storage medium in order to be able to be retrieved and executed.

#### **Contact information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris Benenson whose telephone number is (703) 305-6917. The examiner can normally be reached on M-F (8:20-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703) 308-3119. The fax phone numbers for the organization where this application or proceeding is assigned ails of the computer or the code. are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Application/Control Number: 10/053,152


Page 7

Art Unit: 2836

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Boris Benenson  
Examiner  
Art Unit 2836

B.B.  
July 31, 2002

  
8-7-02

STEPHEN W. JACKSON  
PRIMARY EXAMINER